## **Abstract**

The invention provides a method for determining whether a treatment is effective in changing the status of a certain set of target cells, such as a tumor, in a patient. This method implies obtaining a sample from a patient after initiation of a treatment, and determining whether said sample comprises an expression product of at least one marker gene. Preferably, said sample is a blood sample. In one aspect, said expression product is expressed by a peripheral blood mononuclear cell. Said marker gene may be a gene involved in the generation, maintenance and/or breakdown of blood vessels (angiogenesis). A method of the invention is very suitable to determine within a few days if a certain treatment against Kaposi's Sarcoma is successful. Moreover, this method is suitable for determining the presence of angiogenesis and/or tumor cells in a patient.